Chapter 2

Loading Programs on Your Computer

The floppy diskettes you receive are double-sided, double density, capable of holding approximately 360K bytes of information. Many of the program files have been written in an archive form and are labeled with the **.ZIP** extension. These files must be processed with the PKUNZIP program before they can be used.

2.1 Contents of the HEC-2 Package Diskettes

The HEC-2 package of programs, example input data, example output, menu system and full screen editor (COED) are provided on four 5 1/4 inch double-sided 360 KB floppy diskettes as follows:

INSTALL Diskette:	UTILPROG.ZIP PKZIP.EXE PKUNZIP.EXE PKZIPMAN.ZIP COEDHEC2.ZIP ASKME.COM INSTALL2.BAT TEMP2INS.BAT CONFIG.SYS
HEC2EXE Diskette:	HEC2EXE.ZIP HEC2DAT.ZIP README.DOC
SUP2EXE Program Diskette:	SUP2EXE.ZIP
COED Diskette:	COEDEXE.ZIP COEDHLP.ZIP COEDDOC.ZIP COED.TRM COED.XTK

NOTE: All files with the **.ZIP** extension are archived files. They must be unpacked by the program PKUNZIP provided on the INSTALL DISKETTE. PKZIPMAN.ZIP contains documentation for the program.

2.2 Program Installation on a Hard-Disk System

Installation is accomplished through the execution of an interactive procedure called INSTALL2. To install the HEC-2 Package onto your hard disk, do the following:

1. Start your computer and go to the drive (e.g., C: or D:) on which you would like to install this

software.

2. Place the INSTALL DISKETTE into the A: drive.

3. Type **A:INSTALL2** and then press the **<ENTER>** key.

4. At this point the INSTALL2 program will lead you through the installation of the HEC-2 Package.

The following is a summary of what the INSTALL2 program accomplishes:

1. Allows the user to select the drive (e.g., C: or D:) on which directories will be created and to which files will be copied.

2. Creates directories \HECEXE and \HECEXE\SUP. The \HECEXE directory is used to store all the executable programs and the \HECEXE\SUP subdirectory is used for any supplemental files required by the executable programs. Also creates, if the user wishes, the directories for input and output for each program.

3. The recommended directory configuration that INSTALL2 creates is shown in Figure 2.

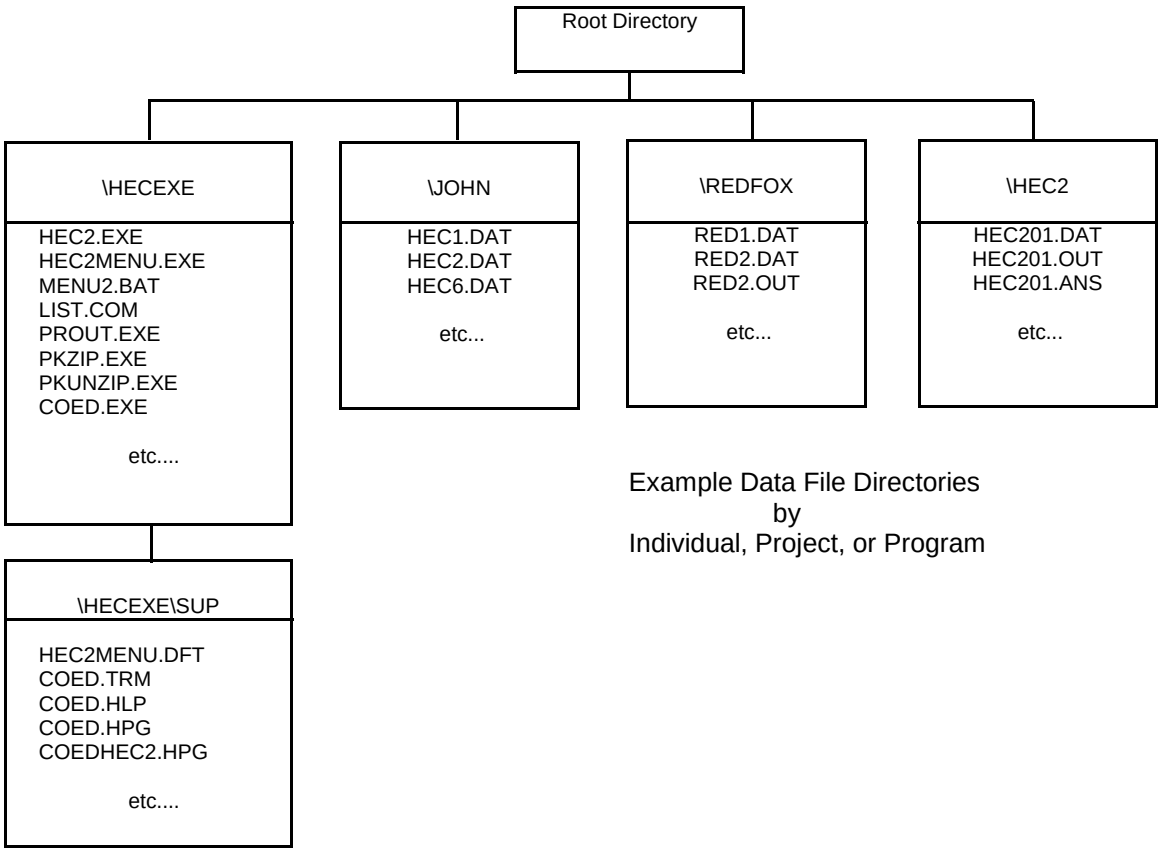

Figure 2
PC Hard Disk Organization Using HEC Application Programs

2.2.1 Alternative Installation

As stated previously, the preferred method for installation is to use the INSTALL2 procedure, which will install the software using the HEC recommended directory configuration. If for some reason you do not use INSTALL2, you will need to do the following to install the HEC-2 Package.

1. You will need to create three directories. One of the directories should be labeled \HECEXE. This directory will be used to store all of the HEC executable programs. A second directory should be labeled \HECEXE\SUP. This directory will be used to store all of the supplemental files required by the executable programs. A third directory should be created to store data files. This data directory can be given any name. As shown in Figure 1, you may want this data directory to represent a specific project, person, or program. To accomplish these tasks do the following:

    * Go to the drive (e.g. C:) on which you would like to install the software.
    * Type **MD\HECEXE** then press the **<ENTER>** key.
    * Type **MD\HECEXE\SUP** then press the **<ENTER>** key.

2. Place the INSTALL Diskette into the A drive. You will need to copy the PKUNZIP.EXE file from this diskette to the root (C:\) directory. Use the following MS DOS command:

    * Type **COPY A:PKUNZIP.EXE** then press the **<ENTER>** key.

    The PKUNZIP.EXE program will be used to dearchive the HEC-2 Package of programs into the correct directory.

3. The next step is to dearchive the utility programs if you want to. If you do not wish to use the utility programs, skip this step and proceed with Step 4. To dearchive the utility programs use the following command:

    * Type **PKUNZIP A:UTILPROG \HECEXE** then press the **<ENTER>** key.

4. The next step is to dearchive the HEC-2 COED help file. If you use COED then you must dearchive this file. To do so, use the following command:

    * Type **PKUNZIP A:COEDHEC2 \HECEXE\SUP** then press the **<ENTER>** key.

5. The next step will be to dearchive the HEC2 program. Place the HEC2EXE Diskette into the A drive. This diskette has a file labeled HEC2EXE.ZIP. This file contains the executables of a HEC2, HEC2MENU and the MENU2.BAT file which executes the MENU2 system. To dearchive use the following command:

    * Type **PKUNZIP A:HEC2EXE \HECEXE** then press the **<ENTER>** key.

6. The next step will be to dearchive the test input and output files that have been provided. If you do not want these files on your hard disk, skip this step and proceed to Step 7. For the data directory name, we are using the program name (i.e., HEC2) as an example. The user can use any name they prefer. If you would like these files copied do the following command:

    * Type **MD\HEC2** then press the **<ENTER>** key.
    * Type **PKUNZIP A:HEC2DAT \HEC2** then press the **<ENTER>** key.

Place the SUP2EXE Diskette into the A drive. This diskette has a file labeled SUP2EXE.ZIP. This file contains the executables for the previously listed programs. To dearchive use the following commands:

* Type **PKUNZIP A:SUP2EXE \HECEXE** then press the **<ENTER>** key.

8. The next step will be to install the Full Screen Editor COED onto your hard disk. Not only does COED have several advanced editing features, but it also has several capabilities that aid in generating input files specifically for HEC programs. To install COED, place the COED Diskette into the A drive and do the following commands:

   * Type **PKUNZIP A:COEDEXE \HECEXE** then press the **<ENTER>** key.
   * Type **PKUNZIP A:COEDHLP \HECEXE\SUP** then press the **<ENTER>** key.
   * Type **PKUNZIP A:COEDDOC \HECEXE\SUP** then press the **<ENTER>** key.

9. To allow access of the executable programs from any directory, it will be necessary to edit the AUTOEXEC.BAT file to include a path to the \HECEXE directory. The AUTOEXEC.BAT file should be in your root (C:\) directory. The following is an example PATH command that would allow access to the \HECEXE directory as well as the root (C:\) directory:

   PATH C:\;C:\HECEXE

   You may want to include a path to other directories on your system. If so, just add the names of the directories to this command. For more information on the PATH command and the AUTOEXEC.BAT file, consult your DOS manual.

10. The final step will be to modify your CONFIG.SYS file. Many HEC programs require the capability to open more than eight (8) files at any one time. Because eight is the system default, you will need to modify your CONFIG.SYS file to include the following two lines:

FILES=20

BUFFERS=20

For more information concerning the CONFIG.SYS file, consult your DOS manual. Use COED or another text editor to make these changes. **AFTER THE CHANGES ARE MADE YOU WILL NEED TO RE-BOOT YOUR MACHINE**.

2.3 Program Execution on a Hard-Disk System

After installation and prior to execution, your system must be rebooted. This will provide the computer the revised information from your CONFIG.SYS and AUTOEXEC.BAT files. You are now ready to test the computer program. The preferred mode of execution is through the menu system, although you can run the individual programs in the package separately.

2.3.1 Executing HEC-2 Through the Menu System

1. Go to the directory containing the HEC-2 data files (e.g., **CD \HEC2**).

2. Type **MENU2** and press the **<ENTER>** key. This will invoke the batch file (MENU2.BAT) used to run the menu system of programs. You must operate the menu system through this batch file or the menu programs will not function correctly.

3. The MENU2 menu will appear on the screen and you are ready to use the programs in the package. See Chapter 3 for a description of the MENU2 program options. Each of the individual programs is described in the chapters that follow.

2.3.2 Executing HEC-2 Without the Menu System

To run the individual programs, the program name is entered along with the associated filenames. If the filenames are not given, the program will prompt you for the files. For example, to run HEC-2, enter the following at the DOS prompt:

HEC2 IN=A:HEC2##.DAT OUT=TEST##.OUT TAPE95=TEST##.T95

where: HEC2## is the test input data file (use A: if it's on the A Drive) and ## is the test number 01 through 17.

If you do not specify the files on the execution line, the program will request the filenames as follows:

ENTER THE FILENAME FOR INPUT [CON]
ENTER THE FILENAME FOR OUTPUT [CON]
ENTER THE FILENAME FOR TAPE95

By pressing the **<ENTER>** key in response to the questions, the default option will be selected.

The computed results from your output file can be compared with the output files provided for each test. Once you have verified that the program indeed runs on your computer, you can begin creating your own input data for the program. See Chapter 4 for information on input file creation. To run the program with your own data, issue the same commands using the filenames for your data.

Most of the HEC computer programs create and delete their own scratch files. If a program should terminate abnormally, you may see files on your system called TAPE92, TAPE93, etc. You may delete or rename these files as needed.

2.4 Running on a Two Floppy-Diskette System

Before you can use the HEC-2 package programs, you will have to dearchive the programs with PKUNZIP. The following assumes two diskette drives labeled **A:** and **B:**.

1. First the PKUNZIP program must be copied onto a blank, formatted diskette. Insert the **INSTALL** diskette into the default drive (this example assumes **A:**) and the formatted diskette into the other drive. At the DOS prompt, enter the following:

   COPY PKUNZIP.EXE B:

2. Remove the **INSTALL** diskette, and insert the **HEC2** diskette into drive **A:**. At the DOS prompt, enter:

   B:PKUNZIP A:HEC2EXE B:"program"

where "program" is the program to dearchive. The default is all programs; however, all programs will not fit on the target diskette. The same procedure can be used to dearchive programs from the SUP2EXE diskette.

3. To run HEC-2, put the diskette with HEC-2 into drive B.

4. Put the diskette to receive output data and scratch files into drive A.

5. Be sure drive A is the default drive, the prompt will be "**A>**".

6. Start the execution of HEC-2 by entering

B:HEC2

7. The computer will return:

ENTER THE FILENAME FOR INPUT [CON]

At this time, remove the HEC-2 diskette from drive B, and put the diskette with the input file into drive B.

8. In response to the question, enter the name of the input file. For example,

B:HEC201.DAT

9. The computer will now return:

ENTER THE FILENAME FOR OUTPUT [CON]

To select the default, press the **<ENTER>** key and the output will be displayed on the screen. Otherwise enter PRN for printer or a filename for disk storage (e.g., B:TEST01.OUT). Remember that the provided output file for the test data is HEC2##.OUT, so do not use that name or the file will be overwritten.

10. The program will then respond with:

ENTER THE FILENAME FOR TAPE95

To select the default, TAPE95, press the **<ENTER>** key. This option is usually selected.

11. The program is now executing and will display a message:

Starting profile number #
CWSEL for cross section xx is yy

where: # is the sequential number of the profile.
xx is the cross section number.
yy is the computer water surface elevation (CWSEL).

When complete, the following message will be displayed:

Normal program termination

The following chapters provide information on creating input data files and executing all the programs in the HEC2 package. Please refer to the appropriate chapter for program instructions.

2.5 Files Associated with the Programs

Besides INPUT (TAPE5) and OUTPUT (TAPE6), up to nine files may be created in an HEC-2 application. They are as follows:

	File Data	Type
TAPE7	FORMATTED	Storage-outflow data for streamflow routing
TAPE10	FORMATTED	Reformatted data from the free format option
TAPE16	FORMATTED	Modified input data file with GR records only.
TAPE90	SCRATCH	Split flow data
TAPE91	SCRATCH	Cross section data file
TAPE92	SCRATCH	Cross section plots
TAPE93	SCRATCH	Information for profile plots
TAPE94	SCRATCH	Comment records
TAPE95	UNFORMATTED	Computed profiles
TAPE96	FORMATTED	Archive data

Scratch files are deleted when the program terminates normally. The other files are retained for later use.